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Preparation of sulfonyl imine compounds

Description of Technology: Disclosed is a process for the oxidation of sulfonamides to sulfonyl imines using chromium (IV) dioxide as the oxidant.

Patent Listing:

1. **US Patent No.** 6,380,429**,** Issued on April 30, 2002, "Preparation of sulfonyl imine compounds"
   http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,380,429.PN.&OS=PN/6,380,429&RS=PN/6,380,429

Market Potential: This invention discloses the use of chromium dioxide as a suitable oxidizing agent for the preparation of sulfonyl imines. The use of chromium (IV) dioxide provides the advantage of using magnetism to separate residual chromium from the desired product.

The process can be carried out with the sulfonamide at least partially dissolved in a suitable solvent or liquid. A wide variety of solvents or liquids may be used. Suitable solvents and liquids are aprotic, non-nucleophilic liquids that are unreactive to the chromium dioxide oxidation reagent under reaction conditions. Preferred solvents and liquids are aromatic hydrocarbons (for example, benzene or toluene), substituted benzenes (for example, chlorobenzene or dichlorobenzene), halogenated aliphatic hydrocarbons (for example, carbon tetrachloride and dichloroethane), acetonitrile, nitromethane, esters, and ethers.

The reaction mixture is heterogeneous. Agitation by means customary in the art is acceptable.

Benefits:

- Magnetism to separate residual chromium from desired product

Applications:

- Oxidation of sulfonamides

Contact:
Delaware Economic Development Office
Direct: (302) 577-8477**,** Fax: (302) 577-8499